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Attorney Docket No. 0756-1553

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Toshimitsu KONUMA et al.
Serial No. 08/698,204
Filed: August 14, 1996
For: ELECTRO-OPTICAL DEVICE

) Group Art Unit: 2871
) Examiner: K. Parker
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Commissioner for Patents, P.O. Box 1450,
Alexandria, VA 22313-1450, on March 4,
2004.

Adelle M. Stanger

RESPONSE

Honorable Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Official Action mailed November 4, 2003, has been received and its contents carefully noted. Filed concurrently herewith is a *Request for One Month Extension of Time*, which extends the shortened statutory period for response to March 4, 2004. Accordingly, Applicants respectfully submit that this response is being timely filed.

The Applicants note with appreciation the consideration of the Information Disclosure Statements filed on July 10, 1997, October 3, 1997, June 4, 1998, February 10, 2000, April 17, 2000, May 16, 2000, June 16, 2000, August 20, 2001, and July 7, 2003. Two further Information Disclosure Statements were filed on February 2, 2004, and February 25, 2004. The Applicants respectfully request that the Examiner provide an initialed copy of the Form PTO-1449 evidencing consideration of the above-referenced Information Disclosure Statements.

Claims 13-15, 21, 24-29, 35-40, 42, 45, 47-49 and 56-70 are pending in the present application, of which claims 25, 35, 40, 42, 47-49, 56, 61 and 66 are independent. The Applicants note with appreciation the allowance of claims 56-60. For

the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action rejects claims 25-29, 35-39, 47-49 and 61-65 as obvious based on the combination of U.S. Patent No. 5,200,847 to Mawatari et al. and U.S. Patent No. 5,278,682 to Niki. The Official Action rejects claims 13-15, 21, 24-29, 35-40, 42, 45, 47-49 and 66-70 as obvious based on the combination of JP 64-49022 to Matsuo in view of Niki. The Applicants respectfully traverse the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Also, MPEP § 2142 states that the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. It is respectfully submitted that the Official Action has failed to carry this burden. While the Official Action relies on various teachings of the cited prior art to disclose aspects of the claimed invention and asserts that these aspects could be used together, it is submitted that the Official Action

does not adequately set forth why one of skill in the art would combine the references to achieve the present invention.

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims. Mawatari, Matsuo and Niki do not teach or suggest at least one driver circuit for driving an active matrix circuit over a first substrate, there being at least one side of the first substrate at which no driver circuit is disposed, a sealing member for sealing a liquid crystal between first and second substrates enclosing the driver circuit, and an inlet for injecting liquid crystal provided to the sealing member and on a side edge of the first substrate and the second substrate corresponding to the one side of the first substrate.

Mawatari, Matsuo and Niki, either alone or in combination, do not teach or suggest a sealing member for sealing a liquid crystal between first and second substrates enclosing a driver circuit. Figures 4 and 10 of Mawatari clearly show that driver elements 118 and 221 are not enclosed by sealing members 103 and 203, respectively. Also, the Official Action asserts that Mawatari discloses a sealing member which may optionally completely enclose the circuits (page 2, Paper No. 58). The Official Action appears to cite the specification of Mawatari to support this assertion; however, it does not appear that Mawatari teaches or suggests a sealing member enclosing a driver circuit, as claimed in the present invention. The Applicants respectfully traverse the above assertion and respectfully submit that the above assertion may have been the result of hindsight and not the teachings of the prior art.

Similarly, figures 1 and 3 of Matsuo show that driving circuits 5 are not enclosed by sealing material 13. Also, figure 1 of Niki shows that data input pads 111 are not enclosed by sealing material 117. Even if it is shown that the data input pads 111 of Niki somehow correspond with the driver circuit of the present invention, the data input pads 111 of Niki are located outside sealing material 117. Mawatari, Matsuo and Niki, either alone or in combination, do not teach or suggest moving the sealing members to enclose the driver circuits. Therefore, Mawatari, Matsuo and Niki do not teach or suggest a sealing member for sealing a liquid crystal between first and second substrates enclosing a driver circuit.

In addition to not teaching or suggesting a sealing member for sealing a liquid crystal between first and second substrates enclosing a driver circuit, Mawatari, Matsuo and Niki do not teach or suggest an inlet for injecting a liquid crystal between first and second substrates, where the inlet is provided at a side of the first substrate at which no driver circuit is disposed, which is recited in all of the independent claims of the present invention.

Mawatari is not concerned with inlets. Matsuo fails to teach or suggest an inlet on a side of a first substrate at which no drive circuit is disposed since Matsuo teaches that injecting port 14 is in opposite substrate 10 as shown in Figs. 1A and 1B and not in substrate 7. Niki appears to be concerned with filling the space between the substrates "without immersing the substrates in the liquid crystal reservoir," which has nothing to do with immersing a driver circuit much less whether or not the inlet is located on a side of a substrate at which no driver circuit is disposed. As noted above, data input pads 111 are not enclosed by sealing material 117 in the first place. Therefore, Mawatari, Matsuo and Niki do not teach or suggest at least one driver circuit for driving an active matrix circuit over a first substrate, there being at least one side of the first substrate at which no driver circuit is disposed, a sealing member for sealing a liquid crystal between first and second substrates enclosing the driver circuit, and an inlet for injecting liquid crystal provided to the sealing member and on a side edge of the first substrate and the second substrate corresponding to the one side of the first substrate.

Since Mawatari, Matsuo and Niki do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained.

Furthermore, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Mawatari, Matsuo and Niki or to combine reference teachings to achieve the claimed invention. As noted above, all three of the references do not teach or suggest a driver circuit enclosed by a sealing member for sealing a liquid crystal between first and second substrates. Specifically, Mawatari shows that driver elements 118 and 221 are not enclosed by sealing members 103 and 203, respectively; Matsuo shows that driving circuits 5 are not enclosed by sealing material 13; and Niki shows that data input pads

111 are not enclosed by sealing material 117. As such, none of the cited references disclose a device where the driving circuits come in contact with liquid crystal material. As such, it is unclear from the prior art of record how or why one of ordinary skill in the art would recognize a problem with locating an injecting port near a driving circuit, which is recognized and solved by the present invention as recited in the independent claims. Therefore, one of ordinary skill in the art at the time of the invention would not have been motivated to form at least one driver circuit for driving an active matrix circuit over a first substrate, there being at least one side of the first substrate at which no driver circuit is disposed, a sealing member for sealing a liquid crystal between first and second substrates enclosing the driver circuit, and an inlet for injecting liquid crystal provided to the sealing member and on a side edge of the first substrate and the second substrate corresponding to the one side of the first substrate.

Even assuming motivation could be found, the Official Action has not given any indication that one with ordinary skill in the art at the time of the invention would have had a reasonable expectation of success when combining Mawatari, Matsuo and Niki.

The Applicants further contend that even assuming, *arguendo*, that the combination of Mawatari, Matsuo and Niki is proper, there is a lack of suggestion as to why a skilled artisan would use the proposed modifications to achieve the unobvious advantages first recognized by the Applicants. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

Still further, the Official Action concedes that "Applicant's advantage of reduced damage due to static may be an unexpected result, or a newly found problem, which would be indicative of non-obviousness" (page 5, Paper No. 58). The Official Action states that "Some evidence establishing facts relating to this should be presented for evaluation, as attorney arguments cannot take the place of facts" (*Id.*) and implies that such evidence has not been presented. As noted in the *Response* filed July 7, 2003, a partial English translation of a seminar textbook entitled *Super High Definition Technique in LCD*, which is not available as prior art against the subject application, was submitted. The article notes a reliability problem due to "pollution of the liquid

crystal" and that "the inlet port is provided on a side where the mounting area [for driving] is not provided." As noted above, this article is not prior art against the present invention. However, this article has been submitted to show a problem in the art which is indicative of non-obviousness. The secondary reference allegedly showing "avoiding spoiling of the liquid crystal material" and cited by the Examiner is not the same as the present article, which shows that a mounting area for driving is desirably not located near the inlet of the liquid crystal. It is respectfully submitted that this article establishes a sufficient factual basis to conclude that a problem in the art exists which is indicative of non-obviousness, and that the subject application achieves unexpected results and is particularly advantageous. That is, any *prima facie* case of obviousness is respectfully submitted to be rebutted by this evidence.

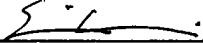
In the present application, it is respectfully submitted that the prior art of record, alone or in combination, does not expressly or impliedly suggest the claimed invention and the Official Action has not presented a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Therefore, the Applicants do not believe that the cited references are appropriate for rejecting the claims under 35 U.S.C. §103(a).

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



Eric J. Robinson
Reg. No. 38,285

Robinson Intellectual Property Law Office, P.C.
PMB 955
21010 Southbank Street
Potomac Falls, Virginia 20165
(571) 434-6789